Scaling Sustainability: Regulation and Resilience in Managerial Responses to Climate Change

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Abstract

This paper introduces the special issue of the British Journal of Management on 'Scaling Sustainability: Regulation and Resilience in Managerial Responses to Climate Change', providing an overview of the key issues in scaling sustainability, comprising an analysis of the five papers in the special issue. We discuss the complex relationship between micro, meso and macro scales, in the context of organizations', managers' and consumers' complicity in the creation and intensification of climate changing conditions. In networking multiple sites into a 'global' scale, managers and organizations can lose sight of the situated, localised nature of the position from which they perform the global. We conclude that a key factor in the capacity and speed at which local actions can be scaled up is the connection of sustainability-related activities by intermediary organizations that can generate resonance between multiple sites through association or alliance, rather than imposing a single logic. Thus, more resilient approaches, which acknowledge the significance of the interconnection between scales, are required to effectively scale sustainability strategies upwards or downwards.

Introduction

"In the East, it could be the COLDEST New Year's Eve on record. Perhaps we could use a little bit of that good old Global Warming that our Country, but not other countries, was going to pay TRILLIONS OF DOLLARS to protect against. Bundle up!" Donald Trump, Twitter, 28.12.2017 4:01pm. (@realDonaldTrump).

The adverse effects of global climate change become increasingly difficult to ignore (Wright and Nyberg, 2017): extreme weather spells cause havoc in ever more rapid succession; atmospheric

concentration of CO^2 reached record levels in 2016 (World Meteorological Organization, 2017); glaciers and ice caps recede and vanish, and so do those animals and peoples who live off these ecosystems. It has been estimated that 200 years of human activity will have fundamentally changed the Earth's climate by the end of the 21st century to the same extent as the time since the last Ice Age, thus impacting upon each continent and at all levels of analysis in which organizational scholars are interested (Howard-Grenville *et al.*, 2014).

'Climate change' subsumes a multitude of specific events and phenomena from melting ice caps and glaciers to floods; extreme hot or cold spells; droughts; extinctions of plants and animals; migration; skin cancer; water shortages and floods, amongst many others. To experience these as associated with patterns of climate change requires a leap from the specific, raw, and isolated towards an order and extension (Korzybski, 1933: 383). Climate change denotes all these phenomena and many others; and at times these very same phenomena are not part of the event that is climate change. The map, as Korzybski reminds us, is not the territory and US President Trump's whingeing about a cold December is not indicative of climate change or a lack thereof. These relations are matters of scale: the local, observable, and raw requires organization into categories and patterns so we can understand and plan action: the question is how we move from one scale to the next and back and what happens in these transitions (Holt and Zundel, 2017).

The Local

Business, management and organization studies are complicit in the creation and intensification of climate changing conditions. Following Adam Smith's (1993 [1776]: 376) maxim that 'consumption is the sole end and purpose of all production….' this notion remains a deep-rooted assumption in almost all modern business and management thinking. The prevailing marketing ideology in the form of the traditional 'marketing concept' goes even further by privileging the individual consumer and consumption *per se* as the rationale for decisions regarding resource production, allocation and use.

The emphasis in the marketing concept on consumption and choice inevitably raises issues of scale; from the micro individual consumer level to the meso organisational or industry production

level to the macro global level of resource allocation and use. All this follows from the core value of 'free choice' underpinning the marketing concept: i.e. the right of consumers to have the freedom to choose from a selection of options in what they buy, from where and from whom. The corollary for producers is that they must provide more and more supplies and products to the market for customers to choose from. The implicit assumption is that more choice is always better - i.e. 'more' is a value in itself (Saren, 2018). Thus, marketing ideology doesn't just lead to more choice at the individual micro level, it also leads to abundance and excess and the necessary provision of *more* than consumers need or want at the macro level. Accordingly traditional marketing speaks the language of material possession, individuality and newness, assumptions about unlimited growth and the accumulation of waste (Sherry, 2000).

We seem to live in a crucial moment in human history where we are still taken in by the spectacle of the commodity as fetish (Debord, 1967) while already sensing the nihilism that comes with such vacuous, wasteful and self-destructive obsessions. Bataille (1988) argues that all human systems lead to excess and waste. Thus, in this respect the underlying values of marketing and consumption merely reflect the human condition, which always creates more than is needed and therefore results in wasted resources. But production no longer necessarily follows need and even governing responses to this unbridled 'potlatch' of consumer excess create new possibilities to let goods, finances, and guilt circulate: from carbon markets, emissions regulations and targets set by national governments and supra-national NGOs already impacting on the global organisation of production, to the proliferation of ever-new organisational configurations whose characteristics no longer correspond to the demands and governing influence of production or commerce, but to global tax loopholes.

Climate change is therefore not only a matter of consumption but of investment and profit. The relative absence of the investor, veiled behind public listings and lured by fluctuating notions of value, from debates on sustainability, particularly as they relate to scale, tells us much about societal apportioning of the burden of responsibility. It is the consumer who is charged with thinking through the impact of their actions, of making the journey from a position of one free to choose to one compelled by a sense of moral responsibility (a distinction traced out in Strawson 1962). In a demand-

led dynamic, where the consumer goes, the investor follows. In a market economy a 'build it and they will come' logic is too often impermissible, managers, placed between consumer and investor finds themselves in something of a bind. Their primary responsibility is to act in the interests of the proprietors in spite of their privately held ideals. If they were to step in and deliver sustainability without a mandate from the investor it would represent little more than an act which Friedman (1970) could describe as 'fundamentally subversive'. In this way, the threat of economic heresy aligns with the threat of missing out: investors and consumers consummate their destined roles in the recurring acts of economic exchange.

The Global

And yet we may wonder why we do not consume or invest with bigger pictures in mind and here we encounter the difficulties of scales. Conceptually, our everyday notions of scale draw from geography and cartography. Our thinking of scale is often shaped by the scale on a map so that we imagine a capacity to zoom in-and-out between scales. Focusing on the local gives granular detail, whilst taking a more global perspective – for example on a world map – shows us the bigger picture. This assumes a Euclidian idea of space as subject to geometrical commensuration: one locale is, geographically, equivalent to another, and both can be represented in a homogeneous, cartographic space. This way of thinking of scale is useful, of course. Maps and representation allow for a form of 'remote control' without which modern projects of management and organization would be impossible (Cooper, 1992). They allow centralised control to be extended over a geographical territory, with local diversity combined into a constructed homogeneity, at a higher 'scale' that is simultaneously more abstracted from locale, and therefore apparently universal, and practical, or grounded, in specific practices of management across that terrain. Maps, and scale, are central technologies for seeing, and managing, like a state (Scott, 1999).

The role of regulation and environmental protection agencies (EPAs) to combat climate change and support eco-innovation is complex and challenging, as well as central to global adoption of non-scalable innovations. And it follows a map-like perspective. The primary reason for the

establishment of EPAs during the 20th century was to reduce the level of gross industrial pollution of air, water and land. Originating from the mantra of 'polluter pays' (Rio Declaration, 1992), EPAs were tasked with enforcing compliance by businesses of environmental and regulatory legislation. Today EPAs continue to tackle such polluting and criminal activities as well as reducing the over-use of natural resources. The SEPA (2016) report highlighted that with current levels of resource consumption we will require 3 planets to fulfil societal demands. The scale of this natural resource over-consumption has created an ecological overshoot with regard to the planet's capacity to regenerate itself. It now takes the planet approximately 18 months to regenerate annual resource consumption. The extent of the problem is highlighted annually, as on the 8th August 2016 – Earth Overshoot Day – with the first 220 days of the year consuming what is regenerated in one year. The remainder of the year resulted in humanity with an ecological debt to the planet.

The challenge on the map for EPAs of 'beyond compliance' support for eco-innovation is clear to everyone. However, EPAs face two related compliance challenges on the ground – ensuring all businesses meet and maintain their legal and regulatory compliance minimum requirements and simultaneously supporting game-changing innovation by those regulated businesses.

Globalizing the local

However we conceptualise scale, one thing is clear, we need to move less stuff around the world, and probably fewer people too. The movement of materials and products is a major driver of carbon emissions. According to the World Bank, in 2014, transport counted for over a fifth of global combustion, more if we include the costs of manufacturing and servicing cars, planes and ships. Indeed, largely because of containerization and global trade imbalances, transport costs are now a negligible part of product costs. But the atmospheric externalities are clear enough. This set-up presents a paradox. It presses us towards the localization of economies and against the assumptions of the competitive advantage of nations that drive trade flows (Parker, 2018). It seems to suggest that 'small is beautiful' (Schumacher 1973), and that local sourcing and short supply chains must be encouraged (Parker 2018). However, it is also evidently the case that the encouragement of local

economies requires forms of regulation and enforcement that appear to transcend the local, and to demand agents with global reach. It is easy enough to imagine that the solution must involve scale, but then to forget that all action is local. But passing a law in an assembly is a practice that takes place locally, with particular people in particular places and times. So too is a legal demand for taxes from a corporation, the boardroom decision to build a new container ship, a farmer deciding on the planting of a crop, an academic weighing up whether they should take the train or the plane. What we mean when we talk about scale is that similar things are happening in lots of localities, but the actions are still local.

Eco-innovation, for instance, is based on the premise of replication of local innovation in multiple locations. Two notable examples how such innovations can be encouraged and recognised are voluntary environmental agreements and awards of eco-innovation. Voluntary agreements focus on regulated businesses adopting practical actions that improve their environmental performance (beyond cost savings) whilst simultaneously delivering business success. Awards for eco-innovation often emerge out of the path dependent resource exploitation which assumes unlimited resource availability (Tsing, 2015). Both eco-innovation awards and non-scalable eco-innovation face two major challenges. First, EPAs attitude to and engagement with voluntary agreements is sporadic. Such voluntary agreements are often seen as adding additional regulatory and financial burden on regulated businesses (Ball *et al*., 2017). Second, non-scalable local eco-innovation requires signalling to a global audience to encourage adoption in other locations (Hansen, 1997). If the decommissioned London Fire Brigade's fire hoses can be rescued from landfill and turned into luxury handbags and purses then such perceived waste can be given an alternative use anywhere globally. The challenge is how to scale-up such non-scalable innovations. At the macro scale, we have recently seen step changes in sustainable consumer behaviour when legislation in China, Ireland and the UK instigated charges from retailers for plastic carrier bags, thus demonstrating how rapidly sustainability impacts can be improved when governments, companies and consumers, at the macro, meso and micro scale co-operate.

Localizing the global

At the same time we need to incorporate the big picture into everyday concern and action. Decisions made by the manager according to any criteria other than principal wealth maximisation, often with the explicit calculation of 'externalities' and other collaterals, amounts, in Friedman's view, to politically motivated usurpation. So it falls to the investor to make their own way to a position of moral responsibility, though their path is arguably more arduous than that taken by the consumer. They must, after all, depart from a point where the logical necessity is to simply create a portfolio optimised along the risk and return paradigm. Yet, rather cheerfully, we can report that ideologically driven investment does happen, it has been with us for quite some time. This 'value expressive' approach, in one form or another, has been present in the UK since the mid-eighteenth century when early Methodists espoused the Wesleyan idea of engaging only in types of economic activity which would cause no harm to others. The conditions required to entice more investors to engage with projects underpinned by ideas of sustainability are emerging due to changes in the regulatory and investing infrastructure. Forming part of a new wave of impact investing, green bonds are fixed income instruments where the capital is invested in order to finance environmentally sustainable projects which abide by a number of core components or 'Green Principles' (International Capital Market Association, 2017). Uptake on green bonds has been rapid, where issuances have substantially increased to reach $116.8 billion for 2017 at the time of writing (Climate Bonds Initiative, 2017). However, there is still some way to go before it hits the targeted $1 trillion per annum by 2020, one of the six milestones proposed by Figueres *et al.* (2017), to be reached if the trend in carbon emissions is to level off by this date. The literature on an ideals-based investing approach emerge with Domini (1992), Hamilton *et al.* (1993) and Statman (2000) who began the discussion of how US investors could pursue the goal of 'doing good whilst doing well.'

Sustainable marketing, for example, is more than just about making products 'green' or 'environmentally friendly'. It requires a completely different way of thinking about the role of marketing and how it deals with change. Kilbourne and Thyroff (2016), attempt to transform the traditional anthropocentric concept of marketing in order to incorporate sustainability at all levels from micro to macro dimensions by presenting a new model to gauge the environmental impact of

marketing and economic activity. They conclude that the requisite changes will not occur spontaneously through consumer action because consumers are, for the most part, wrapped in the ideology of neoliberalism without knowing it. Consumers still believe that "if some is good, more is better".

Likewise, game-changing innovation will require a re-orientation in approach by business to eco-innovation (Berry and Rondinelli, 1998). Given the level of three planet consumption, innovation should be encouraged to emerge from such resource exploitation (Tsing, 2015). 'Scalability' is based upon the well-established economies-of-scale thinking which implies big business / big solutions and outcomes across time and space. Yet, non-scalable scale hints at possibilities to create economic and profit opportunities whilst simultaneously reducing and protecting environmental resource use and realising societal well-being.

Scaling up; scaling down

This model of managing functions through scaling as a specific type of organizing practice. When we think about economies of scale, or about 'scaling up' an enterprise, we construct action in an abstract, homogeneous space within which action can take place at smaller or larger scales, without fundamental change. A small business, for example, can scale up their operations to expand their market size, geographical range and profitability, without doing something ontologically different. The same imaginary has been carried over into sustainability: small scale, local initiatives to reduce carbon emissions, or increase recycling rates, can be 'rolled out' across abstract geographical, political, or economic territories to make a bigger impact, but without a qualitative change. Scaling is more of the same, rather than a qualitative transformation. As Tsing (2015:38) puts it:

> Scalability… is the ability of a project to change scales smoothly without any change in project frames. A scalable business, for example, does not change its organization as it expands… Scalability requires that project elements be oblivious to the indeterminacies of encounter; that's how they allow smooth expansion. Thus, too, scalability banishes meaningful diversity, that is, diversity that might change things.

Thinking about sustainability in terms of 'scaling' therefore has some limitations, for the use of resources (Penrose, 1959) but also in terms of loss of diversity. This is perhaps most evident in the way that a range of diverse ecological impacts have been commensurated through the general equivalent of 'carbon', and thereby money, for example through carbon markets or eco-system services (Sullivan, 2010). This creates a conceptual space within which wood-burning stoves, coal-fired power stations, solar panels, and nuclear plants can be compared, enabling choices between them, while concealing the underlying diversity of these modes of power generation, the different forms of pollution they produce, and the different organizational forms that can manage them. This approach allows scalability, but also at the cost of local 'encounters' or relationality. For example, the social and political organizational implications of nuclear technology, requiring militarised security over thousands of years, are very different when compared to decentralised bio-mass generation, but such diversity is lost when we consider the question of scalability in terms of dollars and carbon (cf. Winner, 1988). Scaling up sustainability strategies which can minimise climate change is significant, yet has remained largely unresolved in recent years (Banerjee, 2012).

There may be other ways to think about sustainability, scale and the environment, however. In March 1970, the 'University of Hawaii Committee on Ecology and Man' presented a bill to the State Senate, proposing the establishment of an ecological and environmental control centres in Government and in the University. The application document, preserved by one of the authors (Bateson, 1971: 496), contains an arrestingly simple outline of three root causes of ecological crisis: technological progress; population increase; and, as it states: "… certain errors in the thinking and attitudes of Occidental culture. Our "values" are wrong".

What are these 'certain errors' and 'values'? The answer derives from Bateson's (1971) concern for aesthetics and its role in ecological thinking. Rather than locating ecological effects in 'material energetic order' (Harries Jones, 2008: 155), Bateson outlines an ecological vision acknowledging non-linearity and feedback; relations that require an 'aesthetic sensibility to pattern and modulation of natural pattern … through deepening a connection between epistemology and aesthetics' (Harries Jones, 2005 72). The 'Hawaii bill' contains an outline of such aesthetic responses, each difference 'triggering' coincident events at different orders of meaning: the creation of

dependencies created by the use of the pesticide DDT drew growing industrial commitment to its manufacture and use; increasing immunity of insects; extermination of animals feeding off these insects; and growth in world population on the basis of (and dependent upon) enhanced farming efficiency. These relations are autocatalytic whereby the increase of one element engenders a positive feedback loop to the next which then triggers an increase in the next, and so on, eventually coming back to increase the initial element.

Our 'certain errors' are linked to a confusion of scales when focussing on the survival or flourishing of an individual person or humanity as such: DDT allows for the survival of a growing population; combustion engines allow for industry and trade; antibiotics allow for high protein diets; and fertilisers for monocultural efficiencies in farming. The aesthetic challenge is to develop our perceptory sensibility to see these connecting patterns; a systemic understanding linking parts to holistic order and vice versa. Errors occur whenever we neglect the recursive nature of living systems and therefore the potential to see self-intensifying, 'runaway' relations. Focus on the survival and flourishing of the species ('man') or organism alone happens at the expense of the environment: nature, animals, resources, etc. Instead, an ecological vision requires consideration of the entire system ('organism+environment') whose boundaries do not necessarily coincide with the body or with other commonsensically attributed forms (Bateson, 1971: 319). The kind of recursion Bateson has in mind is described, by Harries-Jones (1995: 187), as 'a process of continuous looping … without observable attributes of structure'.

How well, then, are we equipped to think in ecologically aesthetic terms across scales in consideration of the entire system? What conceptual maps have we inherited, especially in the West, and do they allow for the recognition of circular causation and recursiveness which thrive in living systems? Bruno Latour takes an alternative approach to this, showing that the local and the global are co-produced, with particular processes being involved in making something local and specific, whilst others are involved in making something global and general.

> But what does it mean to say that something is global, operates on a large scale? Neither individual action nor structure are thinkable without the work of *rendering local* - through channeling, partition,

> focusing, reduction - and without the work of *rendering global*-through instrumentation, compilation, punctualization, amplification.' (1996: 234, see also Callon and Latour 1981)

The interesting thing about this shift to verbs is that it stresses that the local and the global are outcomes of particular sorts of configurations of human and non-human actors. Neither exist unless people and things have been arranged in such a way as to produce them. To scale sustainability, for example, means using technologies that gather together localities, such as those compilations which enabled the World Bank to claim that 20% of emissions are caused by transport and place it on a website. Latour's view seems important in another way too, in that it suggests that the reduction of carbon emissions will not be solved by global declarations from conference centres in Kyoto or Paris. Demanding scale will not automatically mean that similar things happen in multiple localities. Rather we need to be more precise in thinking about the devices that particularise action in space and time, as well as those devices which encourage the replication of such action across space and time. Indeed, Sovacool and Brown (2009) question the optimum scale at which policy change for sustainability should be implemented, since it is usually perceived as a global problem, yet it is a problem caused by individuals.

Rather than thinking of scale in terms of bigger or smaller, more global or more local, then, perhaps we can conceive of scale in terms of networks. Kyoto and Paris, or Davos and Washington, are the locales for what we call 'the global' precisely because they are dense nodes the connect to a wide range of other dense nodes (Beijing and Berlin, perhaps, but also Amazon, Shell, Bono and Bill Gates) that are able to connect to, and impact activities in, other local spaces of activity. Such an approach would highlight the importance of those places and people that are not connected – the spaces of disconnection in the network – as well as the translations that allow connectivity by commensurating difference and heterogeneity into the homogeneous spaces of networked connections.

Contributions in this Special Issue

The papers in this special issue all deal with these questions of scale, of scalable action, levels of analysis and governance, and the intricate connections that constitute 'the environment' as an object of knowledge and managerial action, as much as they depend upon it as an always unknowable context, or ground, for their own existence. In 'Re-imagining the scales, dimensions and fields of socio-ecological sustainability', Dermot O'Reilly, Stephen Allen and Patrick Reedy critique the Euclidean assumptions about space that underpin the dominant understandings of scale in management and organization studies, a paradigm that he understands in relation to Capitalist Ecological Modernisation (CEM). Within this paradigm, solutions to climate catastrophe and ecological collapse are sought that can be enacted within a logic of scalability informed by 'economies of scale'. In short, localised initiatives should be 'scaled up' to deliver benefits, and profit, more efficiently. As we have been suggesting in this introduction, however, this approach has both practical and conceptual limits. In their paper O'Reilly *et al.* address the conceptual limits of such an approach, noting the role of the CEM paradigm in constituting problems like climate change, and its evident limits as an approach to solving such, given its basis in an underlying telos of growth. Against this, O'Reilly et al. develop an alternative conceptual language through which to approach scale, taking ideas of scales, grain, levels, and fields from human geography and political ecology, and suggesting an alternative approach – Social Ecology – that, in contrast to CEM, integrates the political, social, and material in a single frame of analysis to inform action. This approach takes into account the reciprocal, recursive relationality we discussed in this introduction, contrasting with the unidirectional growth model of 'scaling' that CEM derives from cartographic and economic thinking.

Where O'Reilly *et al.* critique the dominant governmental approaches to scale from a theoretical perspective, Daniel Nyberg, Christopher Wright and Jacqueline Kirk take a more empirical approach to government and regulation, presenting a discourse analysis of public inquiries into fracking in the UK: the contentious practice of hydraulically fracturing subterranean shale to release gas. Their analysis shows how both spatial scales – the selective mobilisation of local, national and global interests – and temporal scales – shifting between short and long-term horizons – were combined in governmental discourse to articulate otherwise contradictory positions on climate change. Fracking is an intrinsically interesting case when considering climate change and

sustainability because it perpetuates fossil fuel dependence but is produced less CO than some of the supposedly dirtier fuels, like coal. Such a comparison, focussing on the carbon output of different fuels, is a perfect example of how organizationally, economically, and materially distinctive practices are rendered comparable on a discursively constructed, measurable scale. This enables parliamentary debate and decision making on the best ways to manage climate change within the dominant CEM paradigm, but without fundamentally challenging it, at best mitigating its worst excesses, at worst perpetuating and deepening it. In either case, this approach replaces the material specificity of particular locales, concrete ecologies, or landscapes, in favour of an abstract general equivalent, 'carbon', that allows action to be coordinated and compared across space and time, through the scale of CO2 emissions.

Where Nyberg *et al.* focus on national governmental regulation in the UK, our third paper, Irina Papazu and Mette Nelund's 'Scaling as an organizational activity', moves our attention to Denmark, and to the level of organizational innovation and local municipality. Papazu and Nelund report on two very distinctive cases: an organic cider producing cooperative, and a community-based sustainable energy producer. Interestingly, both organizations locate their activities uncomfortably within the more global scales and discursive registers of sustainability. In the case of Samsø, an island-based community, renewable energy initiative, the organization's location within wider discussions of climate change are ambivalent. On the one hand, they focus on the local economic impacts of their actions, understanding the idea of sustainability in relation to the concrete, specific needs of the local community, not only for energy, but also jobs and economic activity. On the other hand, they can claim negative carbon emissions, at least within the parameters of the scalable metric of CO2 emissions, and have inspired action around the globe, despite their spokesman's favour maxim of 'think locally, act locally'. In this respect, Samsø might offer an alternative model for thinking about scale, not as growth and expansion of a model, but of localised, concrete action, connected to other localised, concrete action through a different understanding of scaling, one that resonates with the social ecology perspective articulated by Reilly *et al.* as it focusses on solutions that can be 'adapted and adopted in different social sites and levels [acknowledging] the multiplicity inherent in social life and… diverse socio-ecological sustainabilities' (p. to be inserted after article is

paginated). Papazu and Nelund's second case – the cider producer Farendløse Mosteri – similarly refuse the scale of 'organic', regulated at national and global levels, in favour of what they would see as a more authentically organic farming practice, situated within their specific, concrete context.

In 'Scaling up community action for tackling climate change' Deirdre Shaw, Andrew Cumbers, Robert McMaster and John Crossan explore the intertwining of responsibilities around food production which connects actors at and across different geographical scales in a British city. The creation of a community garden is something that appears an exemplar of the local, but Shaw and colleagues show how effective strategizing for climate change requires attention to multi-scalar tensions and opportunities. The paper explores the problems facing groups at the neighbourhood level as well as a policy partnership at the city level as a way of confronting neoliberal urban competitiveness agendas. Crucial here is the potential to 'jump scale', as they call it, bringing multiple localities to bear on shared problems.

In 'Sustainability: Issues of scale, care and consumption', Andreas Chatzidakis and Deirdre Shaw offer an alternative perspective by investigating how consumers interested in sustainability are affected by conflicts in caring and scale, with the emphasis on the micro scale and its relationship with other scales. Their paper illustrates how scale influences consumption and social reproduction, analysing consumers' preoccupations with caring about and for themselves, significant others and the sustainability of the planet. Drawing on in-depth interviews with consumers, Chatzidakis and Shaw illustrate how ordinary consumption operates within conflicting landscapes of care in a scalar context, visualising incremental and overlapping modes of caring across scales. The paper explores the potential for scale to increase understanding of consumers' engagement (or otherwise) with climate change issues and sustainability more broadly, demonstrating that consumers may feel constrained within one scale, yet agentic in another. Thus, policy promoting sustainability could benefit from acknowledging the relational and spatial contexts of people's consumption and caring decisions, pertaining to individual, domestic, urban, national and global levels.

Collectively, these papers open up a series of challenges for future research into management and sustainability, by providing insights into scaling sustainability in different countries and sectors. Whilst much management research on sustainability has focussed on the polarities of micro and

macro (local and global), these papers all suggest that the meso level is at the very least a crucial mediator. Organizations are locally grounded, and situated in distinctive cultural and socio-political contexts, even when they speak on behalf of macro contexts (as with a governmental body) or even the 'global' (as with an international NGO). In this sense we can understand the organization as a site for the production of scale: both in terms of scales for measurement (as when and organization produces a measure of pollution or sustainability) and as a mechanism for scaling up activities (as when an organization extends its activities to new locales and contexts). Whilst together these two processes create the appearance of a linear, homogeneous scale from small to large, or local to global, these effects are a result of management and organization translating and connecting chains to produce 'the global' and 'the local'. This would suggest that global action is essentially created by implementing multiple local actions. A key factor in the capacity and speed at which local actions can be scaled up is therefore the connection of sustainability-related activities by intermediary organizations that can generate resonance between multiple sites through association or alliance, rather than imposing, and policing, a single logic across space as if it were all identical.

For managers, this suggests that scale may be better understood in terms of extending networks: of creating linkages and translating matters of concern between divergent locales, causing actions in one place to resonate with actions elsewhere, and effectuate multi-site changes. Indeed, this could be a good definition of 'scaling' from a more practice-based perspective. However, we would also sound a note of caution with this approach. In networking multiple sites into a 'global' scale, it is all too easy for managers and organization to lose sight of the situated, localised nature of the position from which they perform the global. As we have suggested in this introduction, and as the papers in this special issue suggest, there is no single, unified, homogeneous and uncontested 'environment', so enacting singular, globalizing logics, to address the global problem of climate change is likely to fail. Such approaches adopt the perspective of economies of scale and, invariably, run up against diversity and difference when plans encounter material, concrete, situated practice, and thus, more resilient and urgent approaches are required to effectively scale sustainability strategies upwards or downwards.

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